



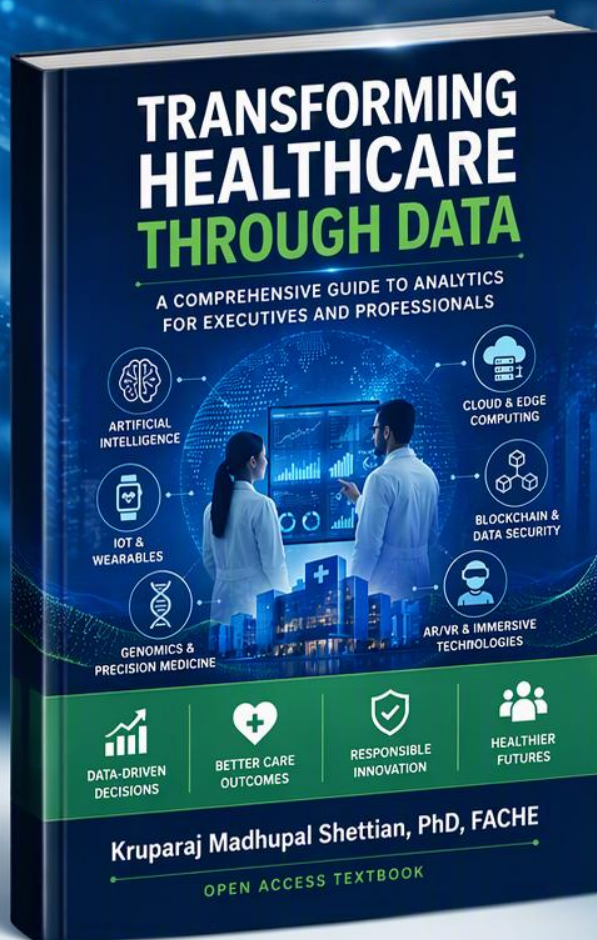
INSTRUCTOR TOOLKIT

Transforming Healthcare Through Data

A COMPREHENSIVE GUIDE TO ANALYTICS
FOR EXECUTIVES AND PROFESSIONALS

FACULTY ADOPTION AND COURSE-PLANNING RESOURCES

Empowering the next generation of healthcare leaders through data, insight, and action.



INSIDE THIS TOOLKIT

-  Instructor guidance and course-fit recommendations
-  Program-specific chapter mapping
-  Sample 15-week course syllabus
-  Assessment strategies and grading model
-  Sample assignments, projects, and discussion prompts
-  Faculty implementation checklist

"Through the thoughtful approaches described by Dr. Shettian, I am confident that you will always remember the most important element of every project, every model and every formula: our patients."

MASON VAN HOUWELING

Chief Executive Officer
University Medical Center of Southern Nevada

Kruparaj Madhupal Shettian, PhD, FACHE

PALS GLOBAL LLC | FIRST EDITION | 2026

A COMPANION RESOURCE FOR AN OPEN-ACCESS TEXTBOOK

PEOPLE
INSIGHTS
DECISIONS
BETTER HEALTHCARE

DATA TODAY. A HEALTHIER TOMORROW.

Toolkit Overview

A flexible, editable resource for faculty review and course adoption

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How to use this toolkit

Adopt the complete textbook, select chapters as a supplemental resource, or adapt the sample syllabus and assessments to local program outcomes. Editable placeholders are shown in brackets.

Book Citation

Shettian, K. M. (2026). Transforming healthcare through data: A comprehensive guide to analytics for executives and professionals (1st ed.). PALS Global LLC.

Faculty Welcome Letter

Dear Faculty Colleague,

Thank you for considering Transforming Healthcare Through Data: A Comprehensive Guide to Analytics for Executives and Professionals for your course, program, or professional-learning initiative.

This open-access textbook was developed to help learners connect healthcare data and analytical methods with leadership, operations, quality, finance, governance, ethics, and organizational transformation. The book is designed for readers with varied technical backgrounds and emphasizes practical application, human judgment, responsible innovation, and measurable action.

The text may be used as a primary textbook, a supplemental reference, an executive-learning resource, or a foundation for independent study. Its chapter-based structure supports flexible adoption across healthcare administration, health informatics, public health, healthcare analytics, quality improvement, and leadership curricula.

This toolkit provides course-alignment options, a sample 15-week syllabus, assessment strategies, and ready-to-adapt assignment concepts. I welcome feedback, adoption questions, guest-lecture requests, academic collaborations, and recommendations for future editions.

Thank you for supporting accessible learning and the responsible use of data to improve healthcare.

Sincerely,

Madhu

Kruparaj Madhupal Shettian, PhD, FACHE

Author | Healthcare Executive | Educator | Analytics Leader

madhu@palsglobal.com | <https://palsglobal.com/transforming-healthcare-through-data/>

Book at a Glance

Item	Details
Title	Transforming Healthcare Through Data: A Comprehensive Guide to Analytics for Executives and Professionals
Author	Kruparaj Madhupal Shettian, PhD, FACHE
Edition	First Edition, 2026
Publisher	PALS Global LLC
Format	Open-access web edition; downloadable formats available through Pressbooks
License	CC0 1.0 Universal Public Domain Dedication, except where otherwise noted
Primary audiences	Healthcare executives, professionals, analysts, educators, students, and emerging leaders
Instructional uses	Primary text, supplemental text, executive education, professional development, and independent study

Why Adopt This Book?

Faculty benefit	Value
Zero-cost access	Students can begin reading on the first day without the barrier of purchasing a textbook.
Healthcare-wide perspective	Clinical, operational, financial, population-health, technology, governance, and leadership perspectives are integrated.
Leadership orientation	Analytics is presented as an organizational capability that connects evidence with accountability and action.
Current and responsible	Artificial intelligence, interoperability, privacy, cybersecurity, ethics, equity, and emerging technologies are addressed together.
Teaching-ready structure	Practical examples, frameworks, executive implications, discussion questions, review questions, and quizzes support instruction.
Flexible adoption	Faculty may use the entire book or select chapters for specialized courses and modules.

Learning Outcomes and Course Fit

Program-Level Learning Outcomes

- Explain the role of data, information, analytics, and evidence in healthcare decision-making.
- Evaluate healthcare data sources, EHRs, data infrastructures, and analytical maturity.
- Interpret visualizations, performance measures, and analytical findings for diverse stakeholders.
- Connect clinical, operational, financial, population-health, and qualitative information.
- Evaluate opportunities, limitations, risks, and governance needs associated with artificial intelligence.
- Apply principles of data governance, interoperability, privacy, cybersecurity, ethics, and health equity.
- Translate analytical insights into accountable recommendations and workflow improvements.
- Develop implementation, change-management, and capability-building strategies.
- Assess value across patient, clinical, operational, workforce, equity, and financial dimensions.
- Communicate analytical findings clearly to executive, clinical, technical, and community audiences.

Recommended Course Applications

Program or setting	Example courses	Recommended use
Healthcare Administration	Healthcare Analytics; Healthcare Operations; Quality and Performance; Strategic Management	Primary or supplemental text
Health Informatics	Health Informatics; Clinical Informatics; Information Systems; Digital Health	Primary or selected chapters
Public Health	Population Health; Public Health Informatics; Health Systems Management	Selected chapters or supplemental text
Analytics / BI	Healthcare Analytics; Business Intelligence; Decision Support; Visualization	Primary or selected chapters
Executive Education	Analytics Leadership; AI Governance; Data Strategy; Transformation	Selected modules
Organizational Training	Governance; Analytics Maturity; Responsible AI; Change Management	Workshop or cohort-based learning

Program-Specific Chapter Mapping

Chapter	Healthcare Admin.	Health Informatics	Public Health	Executive Education
1. Data-Driven Transformation	All	All	Recommended	All
2. From Data to Action	All	All	Recommended	All
3. EHRs and Data Infrastructure	Recommended	All	Selected	Selected
4. Warehouses and Lakes	Selected	All	Optional	Selected
5. Analytical Methods	All	All	Recommended	Selected
6. Payers, Providers, Patients	All	Recommended	All	Recommended
7. Visual Analytics	All	All	Recommended	Selected
8. Domains and Maturity	All	Recommended	Recommended	All
9. Smart Applications	All	Recommended	All	Recommended
10. Big Data	Recommended	All	Recommended	Selected
11. Artificial Intelligence	All	All	Recommended	All
12. Qualitative Analytics	Recommended	Recommended	All	Selected
13. Governance, Privacy, Security, Ethics	All	All	All	All
14. Professional Landscape	Recommended	Recommended	Selected	Optional
15. Implementation and Change	All	Recommended	Recommended	All
16. Future Technologies	All	All	Recommended	All

Interpretation

All = strong alignment for a full-course adoption. Recommended = valuable for core or supplemental use. Selected = use based on program outcomes. Optional = enrichment or career-development content.

Teaching and Learning Framework

Suggested Weekly Learning Cycle

Stage	Faculty and learner activity
Prepare	Complete the assigned reading and chapter review questions.
Connect	Relate concepts to a current healthcare challenge, organizational example, or learner experience.
Analyze	Interpret a case, visualization, metric, workflow, governance decision, or AI use case.
Discuss	Compare stakeholder perspectives, tradeoffs, limitations, and ethical implications.
Apply	Produce a recommendation, dashboard critique, policy outline, maturity assessment, or implementation plan.
Reflect	Identify how evidence, judgment, workflow, accountability, and value connect.

Delivery Modalities

- In person: brief lecture, facilitated case discussion, and team application activity.
- Online asynchronous: chapter reading, multimedia prompt, structured discussion, and applied memo.
- Hybrid: asynchronous preparation followed by live case analysis or stakeholder simulation.
- Executive cohort: selected readings, peer exchange, organizational assessment, and action-planning workshop.

Inclusive and Applied Teaching Practices

- Offer multiple ways to engage with concepts, including narrative cases, data displays, discussion, and written analysis.
- Use de-identified or synthetic examples when institutional data cannot be shared.
- Invite learners to examine how data quality, access, bias, governance, and workflow design affect different populations.
- Make assignment expectations explicit through rubrics, exemplars, and staged feedback.

Sample 15-Week Syllabus

Healthcare Data Analytics

Course field	Editable entry
Course number	[Insert]
Credits	[Insert]
Instructor	[Insert name, credentials, email, office hours]
Delivery format	[In person / online / hybrid]
Prerequisites	[Insert or None]
Required text	Shettian, K. M. (2026). Transforming healthcare through data (1st ed.). PALS Global LLC. Open-access edition.

Course Description

This course examines how healthcare organizations acquire, manage, analyze, govern, communicate, and apply data to improve decisions and outcomes. Learners explore data infrastructure, analytical methods, visualization, applied analytics, artificial intelligence, qualitative insight, governance, privacy, cybersecurity, ethics, workforce development, implementation, and emerging technologies. The course emphasizes translation of analytical findings into accountable action and measurable value.

Course Learning Outcomes

- Explain the role of data, information, analytics, and evidence in healthcare decision-making.
- Evaluate healthcare data sources, EHRs, data infrastructures, and analytical maturity.
- Interpret visualizations, performance measures, and analytical findings for diverse stakeholders.
- Connect clinical, operational, financial, population-health, and qualitative information.
- Evaluate opportunities, limitations, risks, and governance needs associated with artificial intelligence.
- Apply principles of data governance, interoperability, privacy, cybersecurity, ethics, and health equity.
- Translate analytical insights into accountable recommendations and workflow improvements.
- Develop implementation, change-management, and capability-building strategies.

Sample Weekly Schedule

Week	Topic	Chapter(s)	Illustrative activity
1	Healthcare transformation and leadership	1	Personal analytics-leadership reflection
2	From data to action	2	Decision-to-action process map
3	EHRs and data infrastructure	3	Data-source inventory
4	Warehouses, lakes, and architecture	4	Architecture comparison brief
5	Analytical approaches and methods	5	Method-selection exercise
6	Payers, providers, and patients	6	Stakeholder KPI map
7	Visual analytics	7	Dashboard critique
8	Domains, maturity, and midterm integration	8	Analytics maturity assessment
9	Applied analytics	9	Operational or clinical case memo
10	Big data in healthcare	10	Big-data opportunity/risk analysis
11	Artificial intelligence	11	AI use-case governance review
12	Qualitative and mixed-methods insight	12	Interview or thematic-analysis exercise
13	Governance, privacy, security, and ethics	13	Governance charter outline
14	Workforce, implementation, and change	14-15	Change and adoption plan
15	Emerging technologies and synthesis	16	Final presentations / strategic analytics plan

Assessment Plan and Grading Model

Assessment	Weight	Purpose
Participation and structured discussion	10%	Connect readings with professional, organizational, and stakeholder perspectives.
Chapter quizzes / knowledge checks	15%	Reinforce foundational concepts and terminology.
Dashboard or visualization critique	10%	Evaluate clarity, context, usefulness, bias, and actionability.
Midterm analytics maturity assessment	15%	Assess organizational capabilities and recommend priorities.
AI governance case analysis	15%	Evaluate value, risk, oversight, equity, and implementation considerations.
Team case presentation	15%	Communicate an evidence-based recommendation to a defined audience.
Final strategic analytics plan	20%	Integrate strategy, governance, workforce, workflow, change, and value measurement.

Adaptation note

Faculty may replace individual components, adjust weights, or use a pass/fail competency assessment. Institutional policies should be added from the approved syllabus template.

Suggested Rubric Dimensions

Dimension	Exemplary evidence
Problem framing	Defines the decision, stakeholder needs, scope, assumptions, and intended value.
Use of evidence	Selects relevant data and acknowledges quality, context, and limitations.
Analytical reasoning	Uses an appropriate approach and accurately interprets findings.
Governance and responsibility	Addresses privacy, security, ethics, equity, bias, and accountability.
Implementation feasibility	Connects recommendations to workflow, people, resources, change, and measurement.
Communication	Presents a clear, audience-appropriate, actionable narrative.

Sample Assignments and Projects

1. Analytics Maturity Assessment

Evaluate a healthcare organization or case using dimensions such as leadership, governance, data infrastructure, analytical capability, workforce, workflow integration, and value measurement. Deliverable: 4-6 page assessment and prioritized roadmap.

2. Dashboard Critique and Redesign Brief

Review a healthcare dashboard or scorecard. Assess audience fit, metric definitions, visual hierarchy, context, potential bias, and actionability. Deliverable: 2-3 page critique plus annotated improvement concept.

3. Responsible AI Governance Review

Select a healthcare AI use case and evaluate purpose, evidence, data suitability, safety, privacy, equity, human oversight, monitoring, and accountability. Deliverable: executive briefing or governance recommendation.

4. Data-to-Action Case Memo

Analyze a clinical, operational, financial, population-health, or patient-experience challenge. Identify data needs, analytical approach, stakeholders, limitations, recommendations, and measures of success. Deliverable: 1,200-1,500-word memo.

5. Final Strategic Analytics Plan

Develop an integrated plan for an analytics-enabled improvement priority. Include strategic alignment, stakeholders, data, governance, workflow, workforce, implementation, change management, risks, and value measures. Deliverable: report and executive presentation.

Discussion Prompts and Implementation Checklist

Cross-Cutting Discussion Prompts

- When does better data fail to produce better decisions?
- How should leaders balance speed, innovation, safety, and accountability?
- What makes a healthcare measure meaningful and actionable?
- How do workflow and organizational incentives shape the impact of analytics?
- What responsibilities should remain with human decision-makers when AI is used?
- How should organizations measure value beyond financial return?
- How do data governance and health equity reinforce one another?
- What capabilities distinguish analytics-enabled organizations from report-producing organizations?

Faculty Implementation Checklist

- ☐ Review the book and select whole-book or chapter-level adoption.
- ☐ Align selected chapters with course and program learning outcomes.
- ☐ Choose assessment components and grading weights.
- ☐ Insert institutional course, accessibility, integrity, and support policies.
- ☐ Confirm links and student access before the first day of class.
- ☐ Decide whether quizzes are formative or graded.
- ☐ Adapt examples to the local healthcare and regulatory context.
- ☐ Provide students with citation and licensing information.
- ☐ Share adoption feedback and improvement suggestions with the author.

Book Access, Citation, and Faculty Support

Access the Book

Resource	URL
Book information	https://palsglobal.com/transforming-healthcare-through-data/
Open-access edition	https://pressbooks.pub/healthcaredataanalytics/
Faculty adoption resources	https://palsglobal.com/faculty-adoption/
Contact	madhu@palsglobal.com

Publication Information

Field	Information
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License	CC0 1.0 Universal Public Domain Dedication, except where otherwise noted

About the Author

Kruparaj Madhupal Shettian, PhD, FACHE, is a healthcare executive, educator, author, and analytics leader. He serves as Director of Data Management and Analytics at University Medical Center of Southern Nevada and as a Healthcare Administration Adjunct at AdventHealth University.

Faculty Adopter Founding Cohort 2026-2027

Adopting educators may request instructor resources, provide feedback, receive toolkit updates, and explore opportunities for academic collaboration.

Thank you for advancing accessible and responsible healthcare education.

Transforming Healthcare Through Data | Faculty Adoption Resources | palsglobal.com/faculty-adoption

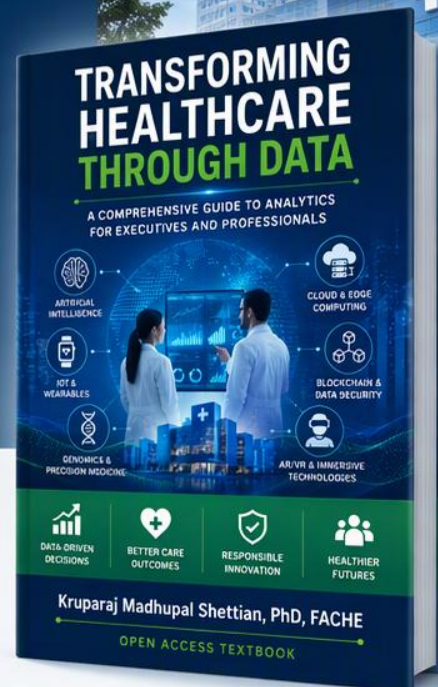
Support Accessible, Action-Oriented Healthcare Education

Transforming Healthcare Through Data is an open-access textbook designed to help healthcare leaders, professionals, educators, students, and emerging leaders connect data and analytics with informed decisions, responsible action, improved outcomes, and measurable value.

This Instructor Toolkit provides faculty with practical resources to evaluate, adopt, and teach with the textbook across healthcare administration, health informatics, public health, healthcare analytics, executive education, and related programs. The materials are designed to support flexible course implementation and can be adapted to meet the needs of diverse learning environments.

OPEN ACCESS CREATES OPPORTUNITY

Educate | Empower | Transform



INSTRUCTOR TOOLKIT HIGHLIGHTS

-  Course-fit and adoption guidance
-  Program-specific chapter mapping
-  Sample 15-week syllabus
-  Assessment strategies and grading model
-  Sample assignments and discussion prompts
-  Faculty implementation checklist

*Practical Resources. Real-World Applications.
Greater Learning Opportunities.*



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